

**Patent Claims**

1. Electro-optical light modulation element comprising
  - a substrate or a plurality of substrates,
  - an electrode arrangement,
  - at least one element or a plurality of elements for polarisation of the light and
  - a modulation medium,characterised in that
  - the light modulation element is operated at a temperature at which the modulation medium is in the optically isotropic phase in the unaddressed state, and in that
  - the electrode arrangement can generate an electric field having a significant component parallel to the surface of the mesogenic modulation medium, and in that
  - the light modulation element includes a solid dielectric layer between the electrode arrangement and the mesogenic modulation layer.
- 20 2. Light modulation element according to Claim 1, characterised in that
  - the solid dielectric layer consists of SiO<sub>2</sub>, SiO<sub>x</sub>, silicon nitride or silicon carbide or the like.
- 25 3. Light modulation element according to at least one of Claims 1 and 2, characterised in that
  - the solid dielectric layer covers at least part of the electrode structure.
- 30 4. Light modulation element according to Claim 3, characterised in that
  - the solid dielectric layer essentially completely covers the corners and/or edges of the electrode structure.
- 35 5. Light modulation element according to Claim 3, characterised in that

- the solid dielectric layer essentially completely covers the electrode structure.
- 5        6. Light modulation element according to at least one of Claims 3 to 5, characterised in that
- the solid dielectric layer the electrode structure has a thickness of 90% or less of the layer thickness of the mesogenic modulation layer.
- 10      7. Light modulation element according to at least one of Claims 1 to 6, characterised in that
- the modulation medium is in a blue phase at the operating temperature of the light modulation element.
- 15      8. Electro-optical display containing one or more light modulation elements according to at least one of Claims 1 to 7.
- 20      9. Electro-optical display according to Claim 8, characterised in that the display is addressed by means of an active matrix.
- 25      10. Electro-optical display system containing one or more electro-optical displays according to at least one of Claims 8 and 9.
- 30      11. Electro-optical display system according to Claim 10, characterised in that it is used or can be used as a television screen, as a computer monitor or as both.
- 35      12. Use of a light modulation element according to at least one of Claims 1 to 7 for the display of information.
13. Use of a light modulation element according to at least one of Claims 1 to 7 in an electro-optical display.

14. Use of an electro-optical display according to at least one of Claims 8 and 9 in an electro-optical display system.

5 15. Use of an electro-optical display system according to at least one of Claims 10 and 11 for the display of video signals or digital signals.

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